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DATA PROCESSING SYSTEM AUDIT REPORT
of the
AUTOMATED DOG LICENSING SYSTEM

*Admin. Methods Data proc.
City planning Nuisance abatement
Munic. admin. Board*

by

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TABLE OF CONTENTS


	<u>Page</u>
SUMMARY	1
RECOMMENDATIONS	2
FINDINGS	4
Background	4
Automated System	4
System Cost	7
Evaluation and Conclusions	7

SUMMARY

The main objective of the Department's dog licensing program is to control the dog population in the City. An incidental goal is to produce revenue. Historically, licenses have been generated in the field by conducting a door-to-door canvass of the City each year, and until recently, all dog licensing functions were performed manually.

In July, 1973, the dog licensing system was automated. The automated system has encountered a number of problems. The system has not been cost effective. Two basic deficiencies of the system which are inherent in its design are: (1) The necessity for two computer passes to complete the licensing transaction which delays the issuance of licenses to owners and requires considerable manual processing effort, and (2) The inability to accurately match information from other computer files with the master file in order to identify additional unlicensed dogs in the City.

Despite the fact that the system has not been fully successful during its first three years of operation, rather than reverting to a manual system, the deficiencies should be corrected. The potential of an efficiently operating automated system is such that the Department will be able to attain greater control over the dog population in the City than under a manual system. The Department will also be able to generate sufficient additional revenue to more than offset the cost of operation.



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RECOMMENDATIONS

It is recommended that the General Manager, Department of Animal Regulation, in cooperation with the General Manager, Data Service Bureau:

1. Formulate a plan, including a timetable, for correcting the deficiencies in the Automated Dog Licensing System and implement the plan. Provisions of the plan should include, but not be limited to:
 - a. Resuming the development of a multipart mailer form, modifying computer programs and manual processing procedures, and thoroughly testing the use of the new form prior to June, 1976.
 - b. Establishing improved procedures for file updating to ensure the basic integrity of the data in the master file.
 - c. Developing the capability for accurately matching information from other computer files with the Department's master file.
 - d. Providing for timely issuance of microfiche records to the central licensing office and district offices.
 - e. Assigning priorities in the Data Service Bureau which will meet the requirements of the System.
 - f. Identifying the personnel and other resources required to design and implement the above recommendations and to maintain the System.
2. Defer potential future modifications or enhancements to the System until all basic deficiencies in the existing System have been corrected and the System is operating efficiently and on a cost effective basis.

NOTE: The General Manager reports that he has implemented Recommendation No. 1, with the exception of c.

Implementation of these Recommendations will cost an estimated \$10,000 once and will result in annual increased revenue of \$20,000.

FINDINGS

Background

By City ordinance, each resident who owns a dog over four months of age is required to secure a dog license each fiscal year. Some residents are aware of the annual licensing requirements and either mail their license fees to the Department or buy their licenses at the central licensing office or at one of the Department's six animal shelters. Prior to 1971-72, most of the licensing was accomplished through the efforts of the Animal License Inspectors' making their annual door-to-door canvass. However, it was impossible for them to canvass the entire City each year. This resulted in revenue loss, and more importantly, less than optimal animal control.

Prior to July, 1973, when the dog licensing system was automated, all dog licensing functions were performed manually. License receipts were handwritten and records of licenses issued were filed by license number and by street address at two offices. One office served the San Fernando Valley, and the other served the balance of the City. Employees at the district animal shelters and the public had to call one of these offices in order to obtain information about animal licenses.

One of the problems under the manual system was the fact that the Inspectors had no way of knowing while they were canvassing which owners had purchased dog licenses and which had not. This resulted in many owners being contacted or application envelopes being left at residences where licenses had already been secured. This sometimes antagonized the dog owners. It also created additional work because clerical personnel had to manually check the files against their records of envelopes which had been left at residences to determine whether or not the dogs were licensed. Because of the large volume of processing each year, it was impossible for the clerical personnel to type and mail follow-up notices to all of the dog owners who had failed to respond.

Automated System

During Fiscal Year 1972-73, the Department entered into a contract with a private consultant to provide an automated system for issuing dog licenses. At that time, the two license offices were

consolidated on the fourth floor of City Hall South so that inquiries could be directed to one licensing location. The initial data base was generated from dog licenses which had been issued during 1972-73. In the latter part of June, 1973, notices to secure dog licenses for 1973-74 were mailed to the dog owners of record.

The data base was to be updated each year for use in issuing the following year's notices to secure dog licenses. The system was also designed to print second and third notices to owners who failed to comply with the license requirements.

Another feature the system was to provide was accurate "walking indexes" for use by the Animal License Inspectors. The indexes were to be master lists of the addresses of dog owners in each zip code area. With these, the Inspectors could determine if licenses had already been secured at various addresses. An accurate "walking index" would improve public relations and reduce the number of field contacts so that larger areas could be canvassed each day.

The automated system is designed to provide microfiche records by license number, street address, and owner's name for all licensed dogs. Microfiche records should be provided whenever the master file is updated. Last year, about five or six sets were furnished at random intervals throughout the year to each district animal shelter and to the downtown office.

Numerous problems were encountered by the central licensing office staff, personnel in the district animal shelters, and by temporary personnel processing renewals when the automated system was first implemented. Many of the problems were caused by inaccurate information in the master file and the inability to accurately match information from other computer files with the master file. These deficiencies resulted in problems in retrieving accurate and timely information from the microfiche records, in generating accurate lists of delinquencies for mailing follow-up notices to owners who had failed to comply, and in generating complete and accurate information for the Inspectors' walking indexes. As a result, problems were created for personnel in the central licensing office and in the animal shelters, duplicate notices were sent to owners to secure dog licenses, and the walking indexes proved useless to the inspectors.

Other serious problems in the automated system were the slow turnaround time for issuing license receipts and dog tags to owners, partially caused by the low priorities given to the dog licensing system by the Data Service Bureau, and inadequate computer-generated financial reports. These problems resulted in a significant deterioration in public relations.

The number of dog licenses issued declined from an all-time high of 266,000 in 1970-71 to 201,000 in 1973-74. During 1974-75, the license total climbed back up to 245,000 due to the use of CETA personnel to assist in the field licensing function, and the generation of additional notices to secure licenses from sources other than the master file. These notices were manually checked against a printout of the master file to prevent the sending of duplicate notices to owners. The decline in the number of licenses issued between 1970-71 and 1973-74 was due largely to the fact that it was necessary to bring in Animal License Inspectors from the field to assist in manual licensing functions during peak renewal periods.

Due to the problems encountered after the system was initially implemented in July, 1973, another contract was entered into with the same consultant in order to make certain modifications and enhancements to the system. Work on this contract was begun in February, 1974, and was ultimately completed in October, 1974. During the second contract, a Steering Committee consisting of representatives from the Department of Animal Regulation, the City Administrative Office, and the Data Service Bureau met periodically to monitor contract compliance.

Subsequent to the completion of the second contract, the Data Service Bureau has been responsible for maintenance of the System. Some preliminary work has been done by the Department in the development of a multipart mailer form so that the license receipts can be produced by the computer at the same time as the notice to secure is produced. This will permit the license receipts and dog tags to be sent to owners on a more timely basis. Use of a multipart mailer should also significantly reduce the time which is required for manual licensing functions.

The Department is now in its third year under the Automated Dog Licensing System and the same basic problems still exist. One of the problems encountered each year has been the delay of two or three months after the annual notices to secure new licenses have been sent to owners until the computer-generated mailers have been made available to the Department to send the license receipt and the dog tag to the owner. This year, the notices to secure licenses were mailed on June 19, 1975. The first tag mailers were not produced by computer until August 11, 1975. Only 6,000 mailers were provided on that date. Another 40,000 were provided on August 19, 1975. As of September 12, 66,000 mailers had been printed, although 85,752 records had been processed.

By mid-September, 1975, two hard copy printouts of current year registrations had been provided to the central licensing office

AUTOMATED DOG LICENSING SYSTEM COSTS

<u>Year</u>	<u>Consultant Contract Costs</u>	<u>Data Service Bureau Costs</u>	<u>Bulk Mail Costs</u>	<u>Estimated Costs for Increases in Regular Office Staff</u>		<u>Estimated Costs for Processing During Peak Renewal Periods</u>		<u>Grand Total</u>
				<u>Administrative Assistant</u>	<u>Clerk Typists</u>	<u>(License Revenue Loss)</u>	<u>(CETA Salaries)</u>	
1972-73	\$11,232	\$105,205	\$17,068	--	\$ 17,578	\$ 63,000	--	\$214,083
1973-74	23,500	144,622	30,963	\$ 9,180	41,472	63,000	--	312,737
1974-75	--	115,770	40,540	13,842	45,000	--	\$40,500	255,652
Totals	\$34,732	\$365,597	\$88,571	\$23,022	\$104,050	\$126,000	\$40,500	\$782,472

in lieu of microfiche, but no microfiche records had been provided to the central office or the district offices showing current year registrations, no follow-up notices or walking indexes had been produced, and improved computer-generated financial reports had not been provided. On September 19, however, the first microfiche records were supplied, by license number only, for licenses issued during the current fiscal year.

System Cost

It was originally intended that the costs incurred in automating dog licensing would be offset by increases in revenue generated by licensing more dogs each year. Unfortunately, it hasn't worked out this way. Operating the system has required an increase in regular office staff to handle additional functions not required under the manual system, and increased processing costs have been incurred during the peak renewal periods each year.

During the first two years, the increased peak period processing costs resulted from a decrease in licensing revenue due to the necessity for bringing Animal License Inspectors in from the field for a period of three and one-half months to process license renewals. During the third year, salary costs for CETA employees were incurred for a similar period of time to handle this peak processing. Estimates of these increased costs, the consultant contract costs, Data Service Bureau costs, and bulk mail costs for the first three years of operation are shown on the opposite page.

Evaluation and Conclusions

Reportedly, the problems in the system to date have been due to hardware failures, lack of priorities from the Data Service Bureau, and program failures. Many of the program failures resulted from making program changes to the existing system without having previously tested the proposed changes. From the beginning, the inherent design of the system has also created problems. The automated licensing system, as originally designed and as it exists today, consists of a system for generating licenses by computer, based upon the licenses included in the master file for the preceding year. Because there is a turnover of approximately 30 percent in the dog population each year--due to animal deaths, owners moving out of the City, and other reasons--the master file tends to degenerate from one year to the next. Historically, the annual losses have been recovered

through the door-to-door canvassing efforts of the License Inspectors. The system has the potential of automatically recovering these losses and increasing animal registration each year. To date, the Department has not placed sufficient emphasis on making necessary improvements in the system to achieve this capability.

Under the existing system, two computer passes are required to complete the licensing transaction. The first generates the notice to secure the license, and the second generates the license receipt and envelope in which to mail the dog tag to the owner. The system as designed has two major deficiencies. (1) Licenses cannot be issued on a timely basis and considerable manual processing effort is required, and (2) There is inadequate provision for accurately matching information from other files with the master file.

As a result of the various problems and inadequacies in the system, the system has not been cost beneficial to date. Further, the day-to-day operations have too often consisted of resolving various crisis situations as they have arisen. The Department can discard the system and go back to manual procedures for handling all licensing functions, or enhance the system capabilities so that the system may operate efficiently. The latter alternative is preferable.

If the system were to be improved so that all current system elements were operating efficiently, it is believed that the potential benefits for the Department would be significant, both in terms of increasing control over the animal population and by generating sufficient additional revenue to more than offset the cost of operation. The Department licenses about one-quarter million dogs each year, but it is estimated that the total dog population in the City is about twice that amount. Department personnel have indicated that there are numerous additional sources of data available pertaining to the dog population. If changes can be made in the system to overcome its inability to accurately match other computer files with the master registration file, data from these additional sources can be processed by computer to identify additional owners whose dogs are not licensed. These sources include information obtained from the City's rabies clinics, pet shops, kennels under permit, and from private clinics and veterinarians.

Because of the annual turnover in the City's dog population, the ability to accurately match information from other computer files containing information about the location of dogs with the Department's master registration file is critical to the success of the automated system. A high priority should be given to the development of this file-matching capability to ensure that notices to

secure licenses are generated and sent to owners whose dogs are unlicensed.

A high priority should also be assigned to the continuation of the development of the multipart mailer form in order to minimize the turnaround time in the issuance of license receipts and dog tags to owners, and to significantly reduce the amount of time spent in manual licensing functions in the central licensing office and district offices. See Recommendation No. 1.

Reportedly, Department management is planning to make certain modifications and enhancements to the system in the near future which would significantly affect the system operation. However, no further modifications or enhancements should be made in the existing system until the deficiencies in the system have been corrected and all of its functional elements are operating efficiently and on a cost effective basis. See Recommendation No. 2.

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